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**A BIBLIOGRAPHY OF THE WRITINGS OF AMOS RAPOPORT**

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## A BIBLIOGRAPHY OF THE WRITINGS OF AMOS RAPOPORT

by

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WORKING PAPER

Australian architect Amos Rapoport has written numerous articles on a variety of concerns in architectural and environmental design. These include social and cultural forces in design, complexity in design and aspects of man-environment studies. The purpose of this working paper and bibliography is twofold. First, the working paper provides an overview of the content and ideas expressed in Rapoport's writings. Secondly, the bibliography provides a complete and comprehensive listing of his writings to date.

Rapoport received his Bachelor of Architecture from the University of Melbourne, Master of Architecture from Rice University, and a Postgraduate Diploma in Town and Regional Planning from the University of Melbourne. He has taught at the University of Melbourne, University of California at Berkeley, and the Bartlett School of Architecture, University College London. He is currently teaching at the University of Sydney where he is in charge of man-environment studies. Recipient of numerous fellowships, grants and awards, Rapoport has also lectured and traveled throughout the world.



The importance of Rapoport's work is in the issues he addresses. Three of these issues are presented in this working paper: 1) social and cultural factors in design, 2) complexity in design, and 3) man-environment studies. Rapoport's primary method of investigation is by a survey of literature rather than any form of field observation - a method that has been criticized (Bradley, 1970). It is not, however, how he supports his hypotheses, but the hypotheses themselves that are of importance. His hypotheses are always concerned with creating more responsive and meaningful environments for man.

#### THE PRIMACY OF CULTURAL AND SOCIAL FACTORS IN DESIGN

Rapoport's first book, House Form and Culture, and many of his articles deal with the importance of cultural and social forces in building design over the physical forces (climate, available building materials, level of technology, etc.). He states, ". . . house form is not simply the result of physical forces or any single casual factor, but is the consequence of a whole range of socio-cultural factors seen in their broadest terms. Form is in turn modified by climatic conditions (the physical environment which makes some things impossible and encourages others) and by methods of construction, materials available and the technology (the tools for achieving the desired environment). I will call the socio-cultural forces primary, and the others secondary of modifying." (Rapoport, 1969A, p. 47).

In investigating the institution of the house as a cultural phenomenon, Rapoport uses primitive and vernacular-built form as his paradigm. He attempts to show how the house form is a result of the socio-cultural forces of the particular culture, and not merely

a form of physical determinism. Rapoport feels the primitive and vernacular-built forms represent "the direct and unself-conscious translations into physical form" of a culture's values, attitudes, world view, needs and traditions. The result is a rich and varied environment.

The lesson to be learned, Rapoport feels, is the relationship between vernacular architecture and its potential usefulness in aiding designers in their contemporary design problems. Today's architect belongs to the "grand design tradition." That is, he designs isolated monuments in specialized contexts and has firm control over the execution and end result. The result is a building with a "tight fit" that becomes unresponsive to people's needs. Rapoport argues for a "loose fit" which allows the individual to take possession of the environment and manifest his personal attitudes. The vernacular tradition has that quality; it allows for a slow adaptation and change that reflects the changes within a culture - it is open-ended.

It is through the manifestations of these socio-cultural forces that built form attains meaning. As Rapoport states, "It is a truism to say architecture communicates, i.e. that it has meaning. Since its main reasons for being are socio-cultural, it has something to say and has symbolic meaning at every level" (Rapoport, 1967B, p. 44). The aspect of meaning that Rapoport deals with is the personalization of environment by the inhabitant. This ability for personalization - of taking possession (place making), defining domains and territories, adapting it and changing it - is most important for establishing meaning for the user. The "loose fit" and open-endedness of the vernacular tradition, Rapoport feels,

offers the best paradigm for meaning. Contemporary architecture and urban design, done in the "grand design tradition," often has a meaning built in (the designer's meaning). This is often a singular meaning resulting from being over-designed. This in many cases does not allow the user the opportunity to control his own environment. All too often the built form controls - it suffers from a tight fit that makes it complete and unchangeable.

One such example Rapoport cites is the C.B.S. Building by Saarinen. The entire building is controlled design - from the structure to the articles one can place on his desk. This singular notion of design control and completeness exhibited throughout the building (no "kewpie doll atmosphere" allowed here) is self defeating. Eventually the environment is taken over by calendars, pencil pots, family pictures and other such individual nuances necessary for the personalization of any environment inhabited by people. The issue becomes the necessity for a conscious attempt at being incomplete - for providing a frame for the activities of man - rather than dictating his environment. It is the celebration of the individual and his ability for self manifestation in the environment that allows for rich and varied meanings to emerge.

Rapoport does not intend to substitute a form of cultural determinism for physical determinism. He states, "I am arguing for the primacy, not the exclusive action, of socio-cultural forces." He continues, "There are always many forces operating in combination. Man may build to control his environment, but it is as much the inner social, and religious environment as the physical one that he is controlling - the ideal environment in cultural terms" (Rapoport, 1969A, p. 60).

COMPLEXITY IN DESIGN

In several of Rapoport's articles, he addresses the issue of complexity and ambiguity in design. His central hypothesis that complexity is a necessary and desirable quality in the built environment contrasts sharply with the aim towards simplicity we find in current architecture and urban design. It is through complexity, Rapoport feels, we can achieve richness, variety and meaning in our environment. The method for achieving complexity is in the use of ambiguity.

The first of three articles (Rapoport and Kantor, 1967A) focuses on the definitions of complexity and ambiguity. Rapoport states, "We will take ambiguity to mean 'arising from language admitting of more than one interpretation . . . duplexity of meaning' rather than 'doubtfulness or hesitation, uncertainty' (both from Webster's Dictionary)" (p. 210). He continues, "By its nature ambiguity thus tends to result in complexity" (p. 210). Rapoport's definition of complexity refers to ". . . physical complexity in the sense of intricacy of design" (p. 211). He continues, "It follows from this that complexity ('to make complex,' complex being defined as 'an assemblage of related things; an intricate combination,' all from Webster's Dictionary) is closely linked to ambiguity, with the ambiguous patterns tending toward greater complexity" (p. 211). Rapoport also focuses on the psychological need for complexity in the environment. Numerous references from psychological and architectural writings are used to support this hypothesis.

In the second article (Rapoport and Hawkes, 1970B), the focus is on complexity in the urban environment. An additional dimension is also added to the concept of complexity. They, "... replace the previously proposed physical dimension of the rate of perceptual input by a psychological dimension capable of reflecting the effects of social and cultural factors as well as subjective ones" (p. 106). This change results in a notion that environmental ambiguity may be more associational (hence, be effected by social, cultural and subjective factors), than perceptual (the physical factors). "Complexity, on the other hand," says Rapoport, "is more often a property of relations among elements and is more related to the perceptual world" (p. 108). He continues, "It follows that the greater the differences among elements, the greater the complexity of the set, suggesting that complexity and variety are closely related" (p. 108). To put this into a usable design paradigm, Rapoport suggests that a way of achieving complexity and ambiguity in the built environment is through a process of violated expectations. "We suggest that the notion of building up expectations and then noticeably departing from them is the principle behind the creation of complexity through the manipulation of variety" (p. 109).

The third article (Rapoport, 1971) is an elaboration on the first two articles as to their possible meaning in built terms. He defines various modes for achieving complexity and ambiguity in our built environments - modes which require our sense modalities such as kinesthetic, visual, tactile, olfactory, and hearing to be fully used. Rapoport stresses the primacy of the visual, especially in western cultures. These modes can be manipulated in order to achieve a richness in the quality of our environments. Lastly, there

is a hierarchy of scales at which complexity can occur. With the increasing mobility of our populations, Rapoport feels the necessity to preserve the meaningful differences between places - city and countryside, different cities and different countries. He states, "Only then may noticeable differences and transitions, which seem at the heart of perceived complexity be preserved" (p. 32).

#### MAN-ENVIRONMENT STUDIES

Rapoport is also concerned with the area of man-environment studies: "the study of the man-environment relationships deals with man as a biological organism as well as a maker of culture and symbols and with the way in which he shapes and is shaped by the built environment" (Rapoport, 1969B, p. 20). Rapoport's study of man-environment relationships center around two points. The first is the relationship between the findings of the current man-environment studies and the traditional beliefs held by designers. The second area deals with the findings of the current studies and how they can be applied to the design process.

In the first area, Rapoport describes the beliefs held by designers:

1. That good design is self-evident, that the designers and the public agree about environmental quality, and that concepts such as neighborhood, city center and privacy are commonly held.
2. That design greatly effects behavior and that peoples' lives can be changed and shaped through good design.
3. That designers' are "form givers" and decide the nature of the built environment. (Rapoport, 1970A, p. 2).

He then goes through a detailed synopsis of the available literature found in three general categories. The first category, perception and cognition, contains a review of literature concerning cultural

variability, vision and complexity, and images, values and schemata. The second category, design and behavior, is a review of the literature concerning crowding, environmental quality, propinquity, friendship and interaction, and privacy. The last category, designers as form givers, is concerned with designers, the public, and determinants of spatial organization.

Rapoport's conclusions are that the recent findings in man-environment research disprove the accepted beliefs held by designers. This would seem to call for a re-orientation of the designers' belief system. The second conclusion is that man-environment studies are in a pre-paradigmatic stage. As Rapoport states, "In most cases the recent findings seem to be of a mutually contradictory kind. One can find a study to support almost any position and can quote in favor of any decision" (Rapoport, 1970A, pp. 14-15). This is coupled with the "epistemological, theoretical and methodological disagreements" currently found within the discipline.

In the second area, Rapoport feels that man-environment studies should deal with three general questions. They are:

What do people do to the environment, i.e., how do they shape it?

What does the environment do to people; what effect does it have?

How do people perceive and comprehend the physical environment? (Rapoport, 1970C, p. 257).

As Rapoport states, ". . . such studies deal with the questions of what and why to build rather than the technical questions of how to build . . ." (Rapoport, 1970C, p. 257). Here he discusses the reasons and necessity for the increasing interest in man-environment studies by designers. In addition, he discusses the input provided

by ergonomics, psychology, social psychology, sociology, anthropology, cultural and human geography, ecology, and ethology.

Rapoport's plea, throughout his writings on man-environment studies, centers on the necessity for the designer to be informed. This he feels would not only enhance our professional role, but would, more importantly, lead to the development of better environments for people.

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I would like to thank Mr. Amos Rapoport for his assistance in making this bibliography complete and up-to-date.

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